

Amendments to the Claims:

Please amend claims 14-16, 19-21, 24-26, 34-36 and 47-49 as follows:

Listing of Claims:

14. (Amended) A method for stopping polishing of a substrate at a desired endpoint, comprising:

monitoring a characteristic of a polishing component indicative of material being removed from a planarized surface of the substrate, wherein the component comprises byproducts produced by polishing the substrate and the characteristic is a pH level of the byproducts, and wherein the monitoring step comprises sensing the pH of the byproducts; and

stopping removal of material from the substrate when the characteristic of the polishing component is at a predetermined value that indicates the material being removed from the planarized surface is at the desired endpoint of the substrate.

15. (Amended) A method for stopping polishing of a substrate at a desired endpoint, comprising:

monitoring a characteristic of a polishing component indicative of material being removed from a planarized surface of the substrate, wherein the component comprises byproducts produced by polishing the substrate and the characteristic is a conductivity of the byproducts, and wherein the monitoring step comprises sensing the conductivity of the byproducts; and

stopping removal of material from the substrate when the characteristic of the polishing component is at a predetermined value that indicates the material being removed from the planarized surface is at the desired endpoint of the substrate.

16. (Amended) A method for stopping polishing of a substrate at a desired endpoint, comprising:

monitoring a characteristic of a polishing component indicative of material being removed from a planarized surface of the substrate, wherein the component comprises

byproducts produced by polishing the substrate and the characteristic is a chemical composition of the byproducts, and wherein the monitoring step comprises determining the chemical composition of the byproducts; and

stopping removal of material from the substrate when the characteristic of the polishing component is at a predetermined value that indicates the material being removed from the planarized surface is at the desired endpoint of the substrate.

19. (Amended) A method for stopping mechanical and chemical-mechanical polishing of a substrate at an endpoint, the method comprising:

monitoring a value of a polishing component related to material removed from the substrate during a planarization process, the component being comprised of byproducts of the planarization process and the value being a pH level of the byproducts, wherein monitoring comprises sensing the pH of the byproducts; and

stopping removal of material from the substrate when the pH is a predetermined value.

20. (Amended) A method for stopping mechanical and chemical-mechanical polishing of a substrate at an endpoint, the method comprising:

monitoring a value of a polishing component related to material removed from the substrate during a planarization process, the component being comprised of byproducts of the planarization process and the value being a conductivity of the byproducts, wherein monitoring comprises sensing the conductivity of the byproducts; and

stopping removal of material from the substrate when the conductivity reaches a predetermined value.

21. (Amended) A method for stopping mechanical and chemical-mechanical polishing of a substrate at an endpoint, the method comprising:

monitoring a value of a polishing component related to material removed from the substrate during a planarization process, the component being comprised of byproducts of the

planarization process and the value being a chemical composition of the byproducts, wherein monitoring comprises determining the chemical composition of the byproducts; and
stopping removal of material from the substrate when the chemical composition reaches a predetermined value.

24. (Amended) A method for stopping polishing of a semiconductor substrate at an endpoint location, comprising:

detecting a characteristic of a polishing component, the component including material removed from a planarized surface of the substrate during a planarization process, and the component includes byproducts generated by the planarization process, and the characteristic is a pH level of the byproducts, and wherein detecting comprises sensing the pH of the byproducts; and

stopping the planarization process when the pH reaches a predetermined value.

25. (Amended) A method for stopping polishing of a semiconductor substrate at an endpoint location, comprising:

detecting a characteristic of a polishing component, the component including material removed from a planarized surface of the substrate during a planarization process, and the component includes byproducts generated by the planarization process, and the characteristic is a conductivity level of the byproducts, and wherein detecting comprises sensing the conductivity of the byproducts; and

stopping the planarization process when the conductivity reaches a predetermined value.

26. (Amended) A method for stopping polishing of a semiconductor substrate at an endpoint location, comprising:

detecting a characteristic of a polishing component, the component including material removed from a planarized surface of the substrate during a planarization process, and the component includes byproducts generated by the planarization process, and the characteristic

is a chemical composition of the byproducts, and wherein detecting comprises determining the chemical composition of the byproducts; and

stopping the planarization process when the chemical composition reaches a predetermined value.

34. (Amended) A method for determining when the polishing of a substrate has reached an endpoint, comprising:

monitoring a characteristic of a polishing component indicative of material being removed from a planarized surface of the substrate, wherein the component comprises byproducts produced by polishing the substrate and the characteristic comprises measuring a pH level of a planarizing liquid flowing off of a polishing pad; and

stopping the removal of material from the substrate when the pH reaches a predetermined value.

35. (Amended) A method for determining when the polishing of a substrate has reached an endpoint, comprising:

monitoring a characteristic of a planarizing liquid flowing off of a polishing pad wherein the liquid is comprised of byproducts produced by polishing the substrate and the characteristic comprises sensing the pH of the byproducts in the planarizing liquid flowing off of the polishing pad; and

stopping the removal of material from the substrate when the pH reaches a predetermined value.

36. (Amended) A method for determining when the polishing of a substrate has reached an endpoint, comprising:

monitoring a characteristic of a planarizing liquid flowing off of a polishing pad wherein the liquid is comprised of byproducts produced by polishing the substrate and the characteristic comprises sensing the conductivity of the byproducts in the planarizing liquid flowing off of the polishing pad; and

stopping the removal of material from the substrate when the pH reaches a predetermined value.

47. (Amended) A method for stopping polishing of a substrate at an endpoint, the substrate having a cover layer and an underlying layer under the cover layer, the method comprising:

monitoring a pH level of a polishing component that is in contact with byproducts produced by polishing the substrate, the pH level of the polishing component having a first value when the cover layer of the substrate engages a polishing medium and a second value when a portion of an underlying layer of the substrate under the cover layer engages the polishing medium;

adding a reactive agent to a planarizing liquid and depositing the planarizing liquid onto a planarizing surface of a polishing pad, the reactive agent selectively reacting with the material of the underlying layer to produce a greater difference between the first and second values with the reactive agent than without the reactive agent;

sensing the pH of the byproducts; and

stopping removal of material from the substrate when the pH level of the polishing component is at a predetermined value that indicates the material being removed from the planarized surface is at the endpoint of the substrate.

48. (Amended) A method for stopping polishing of a substrate at an endpoint, the substrate having a cover layer and an underlying layer under the cover layer, the method comprising:

monitoring a conductivity of a polishing component that is in contact with byproducts produced by polishing the substrate, the conductivity of the polishing component having a first value when the cover layer of the substrate engages a polishing medium and a second value when a portion of an underlying layer of the substrate under the cover layer engages the polishing medium;

adding a reactive agent to a planarizing liquid and depositing the planarizing liquid onto a planarizing surface of a polishing pad, the reactive agent selectively reacting with

the material of the underlying layer to produce a greater difference between the first and second values with the reactive agent than without the reactive agent;

sensing the conductivity of the byproducts; and

stopping removal of material from the substrate when the conductivity of the polishing component is at a predetermined value that indicates the material being removed from the planarized surface is at the endpoint of the substrate.

49. (Amended) A method for stopping polishing of a substrate at an endpoint, the substrate having a cover layer and an underlying layer under the cover layer, the method comprising:

monitoring a chemical composition of a polishing component that is in contact with byproducts produced by polishing the substrate, the chemical composition of the polishing component having a first value when the cover layer of the substrate engages a polishing medium and a second value when a portion of an underlying layer of the substrate under the cover layer engages the polishing medium;

adding a reactive agent to a planarizing liquid and depositing the planarizing liquid onto a planarizing surface of a polishing pad, the reactive agent selectively reacting with the material of the underlying layer to produce a greater difference between the first and second values with the reactive agent than without the reactive agent;

determining the chemical composition of the byproducts; and

stopping removal of material from the substrate when the chemical composition of the polishing component is at a predetermined value that indicates the material being removed from the planarized surface is at the endpoint of the substrate.